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Ministry of Forests

Coast Log Prices

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Introduction

The purpose of this document is to provide information about the process used to calculate Coast log prices. The process is designed to derive and report average log selling prices for prime, arm's-length log sales completed in the Vancouver Log Market (VLM) by species and grade.

Prime log sales are defined as first time sales of logs for domestic consumption occurring in the VLM. An arm's-length transaction involves a sale between two parties who are independent of each other with no special consideration, such as preferred pricing arrangements, special services, etc., made because of one party's relation to the other. The party providing the logs must be compensated at fair market value.

Revenue Branch receives approximately 11,000 log sales invoices annually. By analyzing log sales through the collection of log sale invoices from the logging industry, the ministry is able to calculate log prices for the various species and grades of logs sold in the VLM.

The *Coast Appraisal Manual* defines the VLM geographic catchment area and describes how log prices are used in determining stumpage rates.

Log Price Data Collection

Log sales invoices are submitted in confidence to Revenue Branch where they are reviewed for completeness and reasonableness prior to being entered into the ministry log pricing system.

Currently, the following data is captured from the original invoices:

- log vendor and buyer;
- log sort type[1]:
  - where not specifically identified on the invoice, Revenue Branch staff make a determination of sort type based on criteria as outlined in **Appendix IV**;
- sale type (mature timber or second growth timber);

[1] Examples of sort type include high-grade, pee wee, sawlog, merch, gang, pulp, peeler, etc. All logs graded and scaled under Coast grading and scaling rules (regardless of indicated industry sort) are included in log price calculations. The only exceptions are burnt logs and cants, which are not included in log price calculations.

- volume and number of logs sold by species and grade including boomsticks where applicable:
  - unless there is evidence shown on the invoice that the boomsticks have been scaled before, or there is a letter on file with Revenue Branch indicating that all boomsticks are previously scaled, the value shown on the invoices for these items is entered into the log pricing system and used in the calculation of log prices;
- selling price per cubic metre (m^3); and,
- total value of all logs sold including boomsticks where applicable.

The amounts shown on an invoice for boom chains and applicable taxes are not entered into the log pricing system or used in log price calculations, as they have no bearing on the value of the logs.

Log Price Data Verification

Industry records are reviewed periodically to ensure that log sale transactions from the VLM are accurately reported to the ministry. With the change to the Market Pricing System, the necessity to review invoices for accuracy and completeness will become even more important and occur on a more frequent basis.

All financial information submitted to Revenue Branch in support of log price determination is protected against disclosure by both the *Forest Act* and the *Freedom of Information and Protection of Privacy Act*. Financial information may only be released in summary form so that the source of the information may not be determined.

Log Price Calculations

Invoices for both old growth and second growth timber may be flat priced, spread priced or may show a combination of flat price and spread price. The published log prices used for stumpage determinations are calculated by combining timber volumes and values from flat price (once converted, see below) and spread price data into a single log price for each species/grade combination.

1. **Mature Timber (Old Growth) – Spread Price**

   Where an invoice for mature timber shows individual prices per cubic metre for each species/grade combination, it is considered to be a spread price invoice.

   Log price reports are calculated by dividing the total invoiced value of each species/grade combination for the time period in question by the total volume of each species/grade combination invoiced in the same time period. Please see **Appendix I** for an example of these calculations.

2. **Mature Timber (Old Growth) – Flat Price**

   Where an invoice for mature timber shows a single price per cubic metre for all species/grade combinations listed in the invoice, it is considered to be flat priced.

   In order to approximate the recent market value of each species/grade combination, the total value of each species/grade combination on the invoice is adjusted. The adjustment factors, as shown in **Appendix III,** were last updated following consultation with the Coast log selling price subcommittee in October 2002, and are subject to periodic review and adjustment. Please see **Appendix II** for an example of the conversion from flat pricing to spread pricing and the calculation of log prices for a converted invoice.

3. **Second Growth Timber**

   Invoices that are identified as second growth are processed separately from mature timber invoices in order to separate data into the appropriate category for reporting purposes. Where no indication is made on the invoice it is assumed to be mature timber and subject to the processes outlined in (2) above.

   Second growth timber invoice data is currently not used in the calculation of log prices for stumpage appraisal purposes. Once the database of second growth log sales is large enough to be statistically valid, the actual second growth sale data may replace the requirement to adjust mature timber data as outlined below.

In order to arrive at second growth log prices for stumpage determination purposes, a conversion factor as shown in **Appendix V** is applied against the log prices of mature timber at the species/grade level. For example, mature Grade H cedar is given a value factor of 100 percent and second growth Grade H cedar is valued at 80 percent of the mature timber value. These conversion values are reviewed periodically by the ministry in consultation with the coast log selling price subcommittee.

Published Log Prices

A set of log prices, by species and log grade, is developed using VLM sales data for each one-month reporting period. The data is used to produce a three-month schedule of log prices, by species and log grade, used for mature timber stumpage rate determinations. The same three-month schedule is adjusted on a species/grade level to create a schedule used for second growth Market Pricing System stumpage determinations[2]. These schedules are published quarterly by Revenue Branch.

It should be noted that log prices used in the stumpage appraisal process combine hemlock and balsam into hembal.

For stumpage appraisal purposes, the log price for pine Grades D and F are administratively set to be equal to the log price for pine Grade H.

The volumes and values associated with deciduous logs (alder, birch, cottonwood and maple) are collected for information purposes but are omitted from any stumpage appraisal calculations.

Also for stumpage appraisal purposes, in a month where there is insufficient data to calculate a log price for a species/grade combination the log price is administratively set to be equal to the log price from the previous period.

Revenue Branch calculates and reports log prices to the nearest $\$0.01/m^3$. Final published quarterly prices are rounded to the nearest $\$0.10/m^3$.

[2] Second growth timber is defined in the *Coast Appraisal Manual* as timber that is less than 141 years old.

APPENDIX I

SPREAD PRICE INVOICE CALCULATION (FOR MANY INVOICES)

Inv. 001		Inv. 002		Inv. 003		Inv. 004		Log Price Totals
Species	CE	Species	CE	Species	CE	Species	CE	
Grade	H	Grade	H	Grade	H	Grade	H	
Volume (m^3)	412.71	Volume (m^3)	351.47	Volume (m^3)	400.24	Volume (m^3)	376.80	1,541.22
Value ($)	33,809.20	Value ($)	27,546.57	Value ($)	38,214.95	Value ($)	30,700.66	130,274.38

Log price for Grade H cedar based on Invoices #001 - #004: $84.53/m³ ($130,274.38 / 1,541.22/m³)

APPENDIX II

FLAT PRICE INVOICE CONVERTED TO SPREAD PRICE

This invoice represents a flat rate fir large peeler sort.

			(a)			(b)	(c)	(d)=(b)*(c)	(f)=((a)*(c))/(e)
Pieces	Grade	Species	Volume	$/m3	Amount	Percent of Volume	Relative Value	Factor	Species Log Price
3	B	FI	14.96	180.00	2,692.80	2.20%	110%	0.024170	$200.94
126	C	FI	319.92	180.00	57,585.60	46.99%	100%	0.469897	$182.67
1	D	FI	5.57	180.00	1,002.60	0.82%	200%	0.016362	$365.34
116	H	FI	340.38	180.00	61,268.40	49.99%	95%	0.474951	$173.54
246			680.83			100.00%		0.98538	

(e)=sum(d)

Total amount of this flat priced invoice 122,549.40

Log price of this flat rate invoice (a) 180.00
($122,549.40 / 680.83m3)

This invoice represents a flat rate HemBal high grade sort.

			(a)			(b)	(c)	(d)=(b)*(c)	(f)=((a)*(c))/(e)
Pieces	Grade	Species	Volume	$/m3	Amount	Percent of Volume	Relative Value	Factor	Species Log Price
10	D	HE	66.70	190.00	12,673.00	39.84%	100%	0.398447	$200.42
2	F	HE	15.20	190.00	2,888.00	9.08%	85%	0.07718	$170.35
2	H	HE	21.40	190.00	4,066.00	12.78%	70%	0.089486	$140.29
10	D	BA	64.10	190.00	12,179.00	38.29%	100%	0.382915	$200.42
24			167.40			100.00%		0.94803	

(e)=sum(d)

Total amount of this flat priced invoice 31,806.00

Log price of this flat rate invoice (a) 190.00
($31,806.00 / 167.40m3)

Where :

(a) = The flat rate log price of the invoice as calculated by dividing total invoice value by total invoice volume.

(b) = The volume for the specific species / grade combination divided by the total invoice volume.

(c) = This percentage is taken from the spread price relative value tables.

(Please see Appendix III)

The spread price relative value table values were derived in consultation with the Coast log selling price subcommittee during the fall of 2002 and are subject to periodic review and adjustment.

(d) = By multiplying the figure in column (b) by the relative value in column (c) a conversion factor is calculated for each species / grade combination on the invoice.

(e) = The sum of all the species/grade factors develops a total factor to be applied against the whole invoice.

(f) = By multiplying the relative value percentage of the species/grade combination (c), by the flat rate invoice log price (a) then dividing this product by the entire invoice factor (e) the species/grade specific log price is calculated for this invoice.

APPENDIX III

FLAT PRICE – SPREAD PRICE RELATIVE VALUES EFFECTIVE NOVEMBER 1, 2002, RECOMMENDED BY THE COAST LOG SELLING PRICE SUBCOMMITTEE – OCTOBER 22, 2002

Deciduous

	ALL
System code>	D
Grade	
D	100
F	100
H	100
I	100
J	100
U	100
X	100
Y	100
Z	0

Hemlock / Balsam

	High Grade	Lumber	Standard	Gang Peeler	Gang	Chip n' Saw	Utility Sawlog	Large Pulp	Small Pulp
System code>	H	O	S	P	G	C	U	X	Y
Grade									
D	100	115	135	120	115	110	120	100	100
F	85	100	115	110	115	110	120	100	100
H	70	80	100	110	115	110	120	100	100
I	50	70	90	90	100	110	100	100	100
J	0	0	85	100	100	110	90	100	100
U	0	0	60	80	80	100	85	100	100
X	0	0	50	0	70	90	75	100	100
Y	0	0	0	0	0	0	65	100	100
Z	0	0	0	0	0	0	0	0	0

Cedar

	Lumber	Large Merch.	Small Merch.	Gang	Utility Sawlog	Large Shingle	Utility Shingle	Chip n' Saw	Large Pulp	Small Pulp
System code>	A	M	N	G	S	L	U	C	X	Y
Grade										
D	100	135	130	150	150	150	150	100	100	100
F	85	115	115	140	150	125	150	100	100	100
H	70	100	100	120	135	100	120	100	100	100
I	55	65	90	110	125	85	115	100	100	100
J	0	65	90	100	125	50	90	115	100	100
K	80	100	100	120	135	105	140	100	100	100
L	60	75	85	100	110	100	130	100	100	100
M	0	60	60	70	90	85	100	100	125	125
U	0	30	50	80	100	50	85	100	105	105
X	0	10	10	40	90	40	75	80	100	100
Y	0	0	0	0	0	0	0	0	100	100
Z	0	0	0	0	0	0	0	0	0	0

Cypress

	Gang	High Grade	Standard Sawlog	Utility Sawlog	Pulp
System code>	G	H	S	U	X
Grade					
D	160	100	160	180	100
F	160	80	130	145	100
H	160	60	100	130	100
I	120	25	75	120	100
J	100	0	55	40	100
U	80	15	25	100	100
X	50	5	10	75	100
Y	0	0	0	25	100
Z	0	0	0	0	0

Fir

System code>	High Grade H	Lumber O	Large Peeler P	Standard Sawlog S	Small Peeler or Gang G	Chip n' Saw C	Utility U	Large Pulp X	Small Pulp Y
Grade									
B	55	75	110	125	140	120	120	100	100
C	40	70	100	110	130	120	120	100	100
D	100	145	200	150	160	120	120	100	100
F	80	100	140	130	150	120	120	100	100
H	65	70	95	100	120	120	120	100	100
I	50	55	70	90	110	120	100	100	100
J	0	0	70	80	100	120	90	100	100
U	0	40	40	60	80	100	80	100	100
X	0	0	20	40	40	75	60	100	100
Y	0	0	0	0	0	0	40	100	100
Z	0	0	0	0	0	0	0	0	0

Pine

System code>	Standard Sawlog S	Gang G	Chip n' Saw C	Lumber Reject U	Large Pulp X	Small Pulp Y
Grade						
D	135	160	110	100	100	100
F	120	150	110	100	100	100
H	100	120	110	100	100	100
I	80	110	110	100	100	100
J	60	100	110	100	100	100
U	45	80	100	100	100	100
X	35	40	90	100	100	100
Y	0	0	0	100	100	100
Z	0	0	0	0	0	0

Sitka Spruce

	High Grade	Shop/Lg. Merch	Standard Sawlog	Gang	Chip n' Saw	Large Pulp	Small Pulp
System code>	H	O	S	G	C	X	Y
Grade							
D	100	170	200	115	110	100	100
E	85	150	170	115	110	100	100
F	80	135	160	115	110	100	100
G	65	110	130	115	110	100	100
H	60	100	100	100	110	100	100
I	40	80	90	90	110	100	100
J	0	0	80	100	110	100	100
U	0	50	60	80	100	100	100
X	0	25	50	60	90	100	100
Y	0	0	0	0	0	100	100
Z	0	0	0	0	0	0	0

APPENDIX IV

MINISTRY PRICING SYSTEM LOG GRADES AND EQUIVALENT SORTS FOLLOWING DISCUSSIONS WITH THE COAST LOG SELLING PRICE SUBCOMMITTEE – OCTOBER 22, 2002

Species	Log Sort & System Code	Main Grades	Minor Grades	Trace Grades	Avg. Log Volume	Comments
All Deciduous	*(code – D)*					• All deciduous logs are considered to be pulp, uses one 100% ratio in spread pricing.
HemBal	High Grade *(code – H)*	D, F	P		4.0 m^3 – 7.0 m^3	• A very tight sort, strictly a measure of log quality.
	Lumber *(code – O)*	F, H	D	I	2.75 m^3 – 4.5 m^3	
	Gang Peeler *(code – P)*	J	H	I, U	0.8 m^3 – 1.2 m^3	• Uniform log size, plywood/veneer producing log, will look like a good gang sort but peelers will demand a slightly higher price.
	Standard *(code – S)*	H, I	J, U, F	X	1.8 m^3 – 3.5 m^3	• Large diameter sawlog, limited clear, merchantable construction lumber.
	Gang *(code – G)*	J	U	X, I, H	0.6 m^3 – 1.2 m^3	• Good solid sawlog, same as above, small sawlog.
	Chip n' Saw *(code – C)*	U, J	Y	X	< 0.5 m^3	• 4 to 7 inch top, sound sawlog.
	Utility Sawlog *(code – U)*	I, U, X		H	~ 2.0 m^3	• May cut poor quality lumber, larger log average than gang, better price than pulp logs.
	Large Pulp *(code – X)*	X, Y, U		I	1.5 m^3 – 2.0 m^3	• Will not produce lumber, will be pulped, a sort based on log size, higher proportion of Ys than utility sawlog.
	Small Pulp *(code – Y)*	U, X, Y	J		0.3 m^3 – 0.7 m^3	• Will not produce lumber, sort based on log size, very small log average.

Species	Log Sort & System Code	Main Grades	Minor Grades	Trace Grades	Avg. Log Volume	Comments
Cedar	Lumber *(code – A)*	D, F, H	K, L	I	3.0 m^3 – 6.5 m^3	• Equivalent to high grade in other species.
	Large Merch. *(code – M)*	H	F, D	K, I	>4.0 m^3	• Large diameter sawlog with some clear potential.
	Small Merch. *(code – N)*	H, I	J	F, L, M, U	2.0 m^3 – 4.0 m^3	• Good quality sawlog.
	Gang *(code – G)*	J	H, U	X	0.6 m^3 – 1.2 m^3	• Good millable sawlog.
	Utility Sawlog *(code – S)*	U, X	I, J, M, Y	H, L	< 1.5 m^3	• A rough or risky gang log. Will not cut great merchantable lumber, smaller sized log.
	Large Shingle *(code – L)*	L, M, K		U, X, I	1.8 m^3 – 3.5 m^3	• Good shake/shingle potential.
	Utility Shingle *(code – U)*	M, L	K, U, X		< 1.5 m^3	• Low quality shake/shingle log.
	Chip n' Saw *(code – C)*	U, J, X		Y, M	< 0.5 m^3	• Same criteria across all species with this sort.
	Large Pulp *(code – X)*	U, X, Y, M			~ 1.0 m^3	• Often cedar pulp logs are included as "filler" in utility sorts.
	Small Pulp *(code – Y)*	Y, U, X, M			0.2 m^3 – 1.0 m^3	• Same as large pulp, only smaller logs.
Fir	High Grade *(code – H)*	D, F	H, B		> 4.5 m^3	• Custom cut.
	Lumber *(code – O)*	F, H, B, C	D		3.5 m^3 – 5.0 m^3	• Custom cut.
	Large Peeler *(code – P)*	C, H		F, B, I	2.0 m^3 – 3.5 m^3	• Check if purchaser is a plywood or veneer producer, good quality low risk logs, size determines grades. Suitable for peeling or custom cut.
	Standard Sawlog *(code – S)*	H, I	C, J, U	X, F	2.0 m^3 – 3.5 m^3	• Good quality sawlog.
	Gang/Sm. Peeler *(code – G)*	J		H, I, U, X	0.6 m^3 – 1.2 m^3	• Smaller than a standard log, still produces good lumber.
	Chip n' Saw *(code – C)*	U, J, X		Y	< 0.4 m^3	• Same criteria as other species (see HemBal).
	Utility *(code – U)*	U, X, Y	I	H	> 1.0 m^3	• Due to fir's propensity to grow spiral grained, the log average could be anything greater than 1.0 m.
	Large Pulp *(code – X)*	X, Y, U			> 1.0 m^3	• Not a desired sort due to fir's high pitch content, basically good for firewood.
	Small Pulp *(code – Y)*	U, X, Y		J	< 1.0 m^3	
						<u>General note:</u> Fir pulp grade logs do not make the same quality end product as HemBal pulp grade logs.

Species	Log Sort & System Code	Main Grades	Minor Grades	Trace Grades	Avg. Log Volume	Comments
Pine	Standard Sawlog *(code – S)*	H, I	J, U	X, Y	> 1.0 m^3	• A low volume species, usually all held for one boom load out.
	Gang *(code – G)*	J	H, I	U	~ 1.0 m^3	
	Chip n' Saw *(code – C)*	U, J, X		Y	< 1.0 m^3	• Same criteria across all species with this sort.
	Utility/Lumber Reject *(code – U)*	U, X, Y	I, H, J	F	< 1.0 m^3	
	Large Pulp *(code – X)*	Y, U, X	I, H		> 1.0 m^3	
	Small Pulp *(code – Y)*	U, X, Y		J	< 1.0 m^3	
Spruce	High Grade *(code – H)*	E, D, F, G	H	I	> 6.0 m^3	• Tight sort based on quality, may not find large quantities of H.
	Shop/Lg. Merch *(code – O)*	H, G, I		F, D, U	> 4.0 m^3	• A very large log average, H is median grade, could have full range of grades around it.
	Standard *(code – S)*	H, I	U	J, G, X	2.5 m^3 – 4.0 m^3	• A quality sawlog.
	Gang *(code – G)*	J		U, X, H, I	0.6 m^3 – 1.2 m^3	• Same criteria as other species, a good sawlog.
	Chip n' Saw *(code – C)*	U, J, X		Y	< 0.5 m^3	• Same criteria across all species with this sort.
	Large Pulp *(code – X)*	X, Y	U	I	> 1.5 m^3	• Extremely risky sawlog.
	Small Pulp *(code – Y)*	U, X, Y		J	0.2 m^3 – 1.0 m^3	• Too small for sawlog, very small and poor quality log.
Cypress	Gang *(code – G)*	J, U, I	H, X		~ 0.75 m^3	
	High Grade *(code – H)*	D, F, H		I	~ 3.5 m^3	• Lumber, high grade, temple.
	Standard Sawlog *(code – S)*	H, I	F, J, U	D	< 3.0 m^3	• No Y grade in this sort.
	Utility Sawlog *(code – U)*	U, X, I		H, J, Y		
	Pulp *(code – X)*	X, Y, or Y, X	U	J		

APPENDIX V

SECOND GROWTH CONVERSION TABLE AS PER COAST APPRAISAL ADVISORY COMMITTEE – OCTOBER 22, 2002

(COAST LOG SELLING PRICE SUBCOMMITTEE RECOMMENDATION)

GRADE	HEMBAL	CEDAR	CYPRESS	FIR	SPRUCE	PINE	ALD/COT
B				same dollar as H			
C				0.65			
D	same dollar as H	same dollar as H	1.00	same dollar as H	= HemBal D dollar	1.00	
E					= HemBal H dollar		
F	same dollar as H	same dollar as H	1.00	same dollar as H	= HemBal F dollar	1.00	
G					= HemBal H dollar		
H	0.75	0.80	1.00	0.70	= HemBal H dollar	1.00	
I	0.75	0.90	1.00	0.85	= HemBal I dollar	1.00	
J	0.92	0.85	1.00	0.95	1.00	1.00	
K		0.75	1.00				
L		0.75	1.00				
M		0.75	1.00				
U	1.00	1.20	1.00	0.90	= HemBal U dollar	1.00	1.00
X	1.00	1.00	1.00	1.00	= HemBal X dollar	1.00	
Y	1.00	1.00	1.00	1.00	= HemBal Y dollar	1.00	